

WHAT IS CLAIMED IS:

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1. An optical disk device recording
information on a recordable optical disk including
address information indicating a position of a part of
the optical disk having not recorded any data yet, and
10 reproducing information from the optical disk, the
device comprising:

a reference clock signal generating unit
generating a data-writing reference clock signal used to
obtain a data-writing timing upon recording data to the
15 optical disk;

a synchronizing signal generating unit
generating a predetermined sector synchronizing signal
from said data-writing reference clock signal;

a data demodulating unit reading address
20 information indicating a position on the optical disk
from data recorded on the optical disk so as to
demodulate the address information into a predetermined
synchronizing signal;

a displacement detecting unit detecting a
25 displacement between a phase of said sector

synchronizing signal and a phase of said synchronizing signal; and

a data-writing control unit controlling a data-writing upon performing an additional recording to
5 the optical disk by controlling a revolution of the optical disk dynamically according to said displacement.

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2. The optical disk device as claimed in claim 1, wherein said data-writing control unit increases a servo response dynamically to a motor revolving the optical disk, when said displacement
15 surpasses a predetermined value.

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3. The optical disk device as claimed in claim 1, wherein said data-writing control unit increases a servo response dynamically to a motor revolving the optical disk, when said displacement surpasses the displacement detected last time by said
25 displacement detecting unit.

4. The optical disk device as claimed in
claim 2, wherein said data-writing control unit
decreases said increased servo response back to a
previous degree thereof, when said displacement becomes
5 lower than a predetermined reference value.

10 5. The optical disk device as claimed in
claim 3, wherein said data-writing control unit
decreases said increased servo response back to a
previous degree thereof, when said displacement becomes
lower than a predetermined reference value.

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6. The optical disk device as claimed in
20 claim 2, wherein said data-writing control unit
decreases said increased servo response back to a
previous degree thereof, when a predetermined period has
elapsed since said data-writing control unit increases
said servo response.

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7. The optical disk device as claimed in claim 3, wherein said data-writing control unit decreases said increased servo response back to a previous degree thereof, when a predetermined period has
5 elapsed since said data-writing control unit increases said servo response.

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8. The optical disk device as claimed in claim 6, wherein said data-writing control unit decreases said increased servo response back to the previous degree thereof, when a predetermined amount of
15 data has been recorded to the optical disk since said data-writing control unit increases said servo response.

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9. The optical disk device as claimed in claim 7, wherein said data-writing control unit decreases said increased servo response back to the previous degree thereof, when a predetermined amount of
25 data has been recorded to the optical disk since said

data-writing control unit increases said servo response.

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10. An optical disk device recording
information on a recordable optical disk including
address information indicating a position of a part of
the optical disk having not recorded any data yet, and
10 reproducing information from the optical disk, the
device comprising:

a reference clock signal generating unit
generating a data-writing reference clock signal used to
obtain a data-writing timing upon recording data to the
15 optical disk;

a synchronizing signal generating unit
generating a predetermined sector synchronizing signal
from said data-writing reference clock signal;

a data demodulating unit reading address
20 information indicating a position on the optical disk
from data recorded on the optical disk so as to
demodulate the address information into a predetermined
synchronizing signal;

a displacement detecting unit detecting a
25 displacement between a phase of said sector

synchronizing signal and a phase of said synchronizing signal; and

a data-writing control unit controlling a data-writing upon performing an additional recording to the optical disk by controlling a speed of writing data to the optical disk according to said displacement.

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11. The optical disk device as claimed in claim 10, wherein said data-writing control unit causes said displacement detecting unit to perform the detecting again after decreasing said speed, when said displacement surpasses a predetermined value.

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12. The optical disk device as claimed in claim 10, wherein said data-writing control unit causes said displacement detecting unit to perform the detecting again after decreasing said speed, when said displacement surpasses the displacement detected last time by said displacement detecting unit.

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13. The optical disk device as claimed in
claim 11, wherein said data-writing control unit starts
the additional recording to the optical disk, when said
displacement becomes lower than a predetermined
5 reference value.

10 14. The optical disk device as claimed in
claim 12, wherein said data-writing control unit starts
the additional recording to the optical disk, when said
displacement becomes lower than a predetermined
reference value.